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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,382	07/18/2003	Takayasu Komatsu	Q76605	4041

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EXAMINER

BARRECA, NICOLE M

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,382

Applicant(s)

KOMATSU ET AL.

Examiner

Nicole M. Barreca

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/189,977.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/18/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

1. Claims 1-4 are pending in this application.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano (JP 2-163331).
4. A copper alloy for use in a lead frame is disclosed. The surface roughness of the alloy is regulated. Table 1 discloses that in Examples 1-3 and 4-17 Ra is less than 0.1  $\mu\text{m}$  ( $R_a = 0.04\text{--}0.07 \mu\text{m}$ ) and  $R_{\text{max}}$  is less than 1.0  $\mu\text{m}$  ( $R_{\text{max}} = 0.4\text{--}0.7 \mu\text{m}$ ).
5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Satsunoki (JP 62-224636).
6. Fe-Ni alloy is used as stock for a lead frame. The sheet is subjected to a cold temper rolling to regulate the surface roughness. Table 1 discloses that in Examples 1, 2, 4 and 9, Ra is less than 0.1  $\mu\text{m}$  ( $R_a = 0.02\text{--}0.07 \mu\text{m}$ ) and  $R_{\text{max}}$  is less than 1.0  $\mu\text{m}$  ( $R_{\text{max}} = 0.35\text{--}0.65 \mu\text{m}$ ).

Art Unit: 1756

7. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (US 5,550,002).

8. An aluminum support is electrolytically etched to have a specific surface roughness. A photo-hardened light sensitive layer is provided on the metal support, exposed and developed. Surface roughness Ra is up to 0.1  $\mu\text{m}$  (Ra= 0.1-0.6  $\mu\text{m}$ ) and Rmax is up to 1.0  $\mu\text{m}$  (Rmax =1-5  $\mu\text{m}$ ). See abstract and col.14, 43-45.

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Byers (US 5,821,026).

10. Any suitable substrate, including metal substrates is employed. Smooth surfaces are formed by diamond lathing, grinding, buffing and the like. The substrate surface has Ra is less than 0.1  $\mu\text{m}$  (Ra= 0.005 $\mu\text{m}$ ) and Rmax is less than 1.0  $\mu\text{m}$  (Rmax =0.05 $\mu\text{m}$ ). See col.3, 56-col.4, 14.

11. Please note that the claims are written in product-by-process form and that the limitations of coating a photosensitive resin, exposing a photosensitive resin, etching and regulating the surface roughness using at least a process selected from the Markush group are process limitations which do not impart additional structural limitations on the product. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (*In re Thorpe*). Once the examiner provides a rationale tending to show that

Art Unit: 1756

the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (*In re Marosi*). See MPEP 2113.

**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole M Barreca  
Examiner  
Art Unit 1756



5/10/05